

VEHICLE SURFACE CARE PRODUCTS IN SHEET FORM

This application claims the benefit of U.S. provisional application number 60/473243 filed on May 23, 2003, incorporated herein by reference in its entirety.

Field of The Invention

- 5 The field of the invention is vehicle surface care, especially washing and waxing of motor vehicles.

Background of The Invention

- 10 Numerous products are known for vehicle surface care, including cleansers, polishes, protectants, surfactants, and coloring agents. Such products are often shipped in concentrated liquid or paste forms to reduce shipping and storage costs, and to increase ease of use by customers. Unfortunately, both liquids and pastes are subject to drying out, and separation.

- 15 Another option is to market products in a dry form. Unfortunately, dry forms can also be problematic. Failure to fully mix the product with water can result in non-dissolved particles being suspended in the product, which can ultimately scratch or otherwise damage the surface to which the product is applied. Dry products are also rejected by some consumers due to the propensity of powders to spill, become inhaled, and so forth.

- 20 Chemical impregnated papers solve some of these problems. In the non-analogous field of personal care, papers impregnated with a cleaning composition are used for washing one's face and hands. Impregnated papers are also used to deposit antistatic compositions on computer screens, and to provide fabric softeners for laundry applications.

- 25 One problem with many of the known impregnated papers is that the user is left with a residual paper that needs to be thrown away. That problem has been solved in some industries by using a carrier that itself dissolves in water. US patent publication no. 2002/0098994), for example, teaches a "paper soap" that dissolves in one's hands as water is applied. Laundry detergent and dishwasher soaps have also been "packaged" as sheets that dissolve when immersed in water, See U.S. Patent No. 4,557,852 titled "Polymer sheet for delivering laundry care additive and laundry care product formed from same" directed to laundry detergents, and U.S. Patent No. 4,176,079 titled "Water-soluble enzyme-containing article" directed to dishwasher soap."

perforated rolls, or in any other suitable manner. Product packaging can include sheets that are bound or unbound, so that one packaging might include a tissue type dispenser, and another packaging might include a "booklet" having multiple sheets with different compositions on/in the various sheets. Sheets can also be colored, or have printing upon them, for marketing or other purposes.

Individual sheets can vary in overall size, but preferably have two large sides, each with a surface area from 10 to 200 cm², more preferably from 20 to 100 cm², and even more preferably from 20 to 50 cm² (all ranges used herein are to be interpreted to include the endpoints of the ranges). The size of a sheet can vary depending on its solubility, as well as the solubility of the surface care compositions, the amount of product being provided for a contemplated use, and a number of other anticipated factors, including but not necessarily limited to water temperature and salt content in the water.

Preferred substrates used for the dissolving sheets are already known in the industry for other applications. Currently, the most preferred products are , water soluble carriers are polysaccharides produced by Parachem in Des Moines, Iowa.

It is, of course, preferable that the sheets of the invention dissolve rapidly in water. Preferred sheets dissolve entirely or almost entirely within 2 minutes at normal room temperature, although it is contemplated that in some circumstances a sheet might take longer to dissolve. Certainly sheets that dissolve in less than two minutes are more desirable, especially those that dissolve in less than one minute, in less than 30 seconds, or in less than 15 seconds. It is also contemplated that sheets can have portions that are not dissolvable in water, such as fibers that would sink to the bottom of the bucket of water. Such sheets are still considered dissolvable in water, as long as at least 20 wt% of the sheet dissolves in water at normal room temperature within 5 minutes, with stirring.

Surface care compositions can be combined with water soluble carriers in the sheets in any suitable manner. For example, surface care compositions can be coated onto one or more surfaces of a pre-formed sheet, combined with a carrier composition and then formed into sheets, or at least partially encapsulated within a cavity of the sheet. Sheets do not have to be flat or smooth. Depending on the carrier(s) and compositions used, the sheet or other product can be released as a soapy liquid, a foam, an effervescent soap, etc.

152 can advantageously comprise a plurality of perforations 158 positioned adjacent to a bound side of the booklet 150.

In **Figure 6**, a sheeted product 160 comprises a stack of water soluble sheets 162, indicia 166, a dispenser 167, and packaging 169. The sheeted product of Figure 6 differs from that of Figure 5 in that the sheets 162 are loosely stacked (i.e. not fastened together) within dispenser 167 instead of being stapled together into a booklet. As with product 500 of Figure 5, the indicia 166 is provided in the form of graphic and text instructions, and indicates that the sheets 162 can be mixed with water to prepare a surface care composition that can be applied to a vehicle.

10 In **Figure 7**, a sheet 170 comprises perforations 178 that facilitate dividing sheet 170 into smaller sheets 172.

In an especially preferred embodiment, a thin sheet such as that of Figure 1A. contains Meguiar's™ Deep Crystal™ or Rich Suds™ car wash. When the sheet is submersed in a bucket of water, the sheet dissolves, releasing the car wash into the water. The car wash is then used to wash a car, boat, or other vehicle. Other preferred surface care compositions include Meguiar's™ Cleaner/Wax, and Meguiar's™ Deep Crystal™ polish. And protectants for all surfaces.

Another contemplated product is a solid non-dissolvable carrier, such as a sponge, that contains the one or more surface care compositions. In that case the surface care composition(s) would be released upon insertion of the carrier into a volume of water.

In yet another class of alternative embodiments, In further preferred embodiments, a water-soluble solid sheet may be treated with a surface protectant, such as those that may be used to protect dashboards and vehicle interiors. The surface protectant, for example a car wax, may be used to protect paint. Other contemplated surface protectants may protect tires, chrome or other metal alloy on a vehicle. The surface protectant will be released upon mixing or dissolution of the solid sheet in water. Thus, a protective product may be a solid non-dissolvable form, in which the active composition is released by adding ordinary tap water to the contemplated solid sheet.

Thus, specific embodiments and applications of vehicle surface care products in sheet form have been disclosed. It should be apparent, however, to those skilled in the art that

many more modifications besides those already described are possible without departing from the inventive concepts herein. The inventive subject matter, therefore, is not to be restricted except in the spirit of the appended claims. Moreover, in interpreting both the specification and the claims, all terms should be interpreted in the broadest possible manner
5 consistent with the context. In particular, the terms “comprises” and “comprising” should be interpreted as referring to elements, components, or steps in a non-exclusive manner, indicating that the referenced elements, components, or steps can be present, or utilized, or combined with other elements, components, or steps that are not expressly referenced.

CLAIMS

1 PEA/US

What is claimed is:

1. An article of manufacture comprising a vehicle surface care composition in sheet form, wherein the sheet comprises a water soluble substrate.
3. The article of claim 1 wherein the surface care composition comprises at least one of a cleanser, surfactant, shine promotion agent, and protective agent.
4. The article of claim 1 wherein the surface care composition comprises an automotive cleanser.
5. The article of claim 1 wherein the sheet has a side with a surface area between 10 and 200 cm², inclusive.
6. The article of claim 1 wherein the surface care composition is deposited onto a surface of the water soluble substrate.
7. The article of claim 1 wherein the surface care composition is impregnated into the water soluble substrate.
8. The article of claim 1 wherein the surface care composition is in a spray dried, freeze-dried, concentrated, or powdered form.
9. The article of claim 1 wherein the sheet is colored, or has printing upon at least one of its surfaces.
10. An automotive care product containing the sheet of claim 1 , and instructions for dissolving the sheet in water prior to use.
11. An automotive care product containing a plurality of sheets according to claim 1 , bound together to form a booklet.
12. An automotive care product containing a plurality of sheets according to claim 1, with perforation between at least two of the sheets.

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13. A method of preparing a vehicle surface care composition for use, comprising:
placing a quantity of water in a container;
selecting a sheet according to claim 2;
placing the sheet into the water; and
waiting for the sheet to dissolve.
14. The method of claim 15 wherein the surface care composition comprises a cleanser,
and further comprising using the water into which the sheet has dissolved to wash the
vehicle.
15. A method of marketing a vehicle surface care composition, comprising:
providing the surface care composition in a product have a sheet form; and
referencing a benefit of having the product in sheet form.

ABSTRACT

A surface care compositions is combined with a sheeted substrate that dissolves in water. Preferred compositions comprise at least one of a cleanser, surfactant, shine promotion agent, and protective agent, and are directed to automotive or other motor vehicle applications, such as trucks or boats. The composition is preferably in pray dried, freeze-dried, concentrated, or powdered form, and mixed with or layered onto the substrate. The sheets can be substantially any suitable size or shape, and can be delivered to a consumer in any suitable presentation, including stacked, bound or unbound, or perforated and included in a roll.

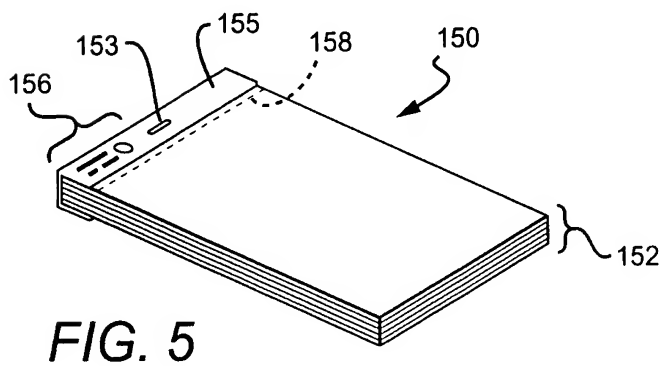
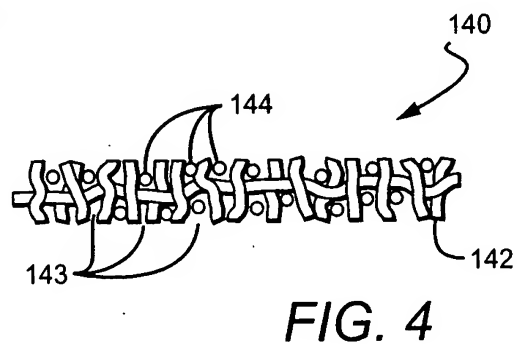
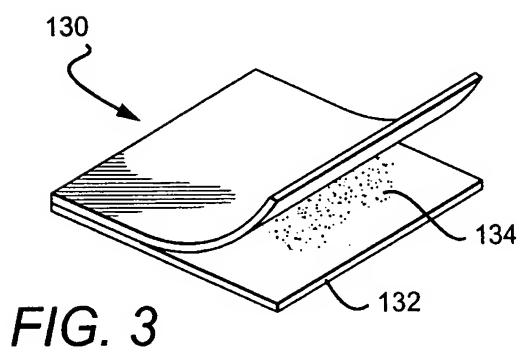
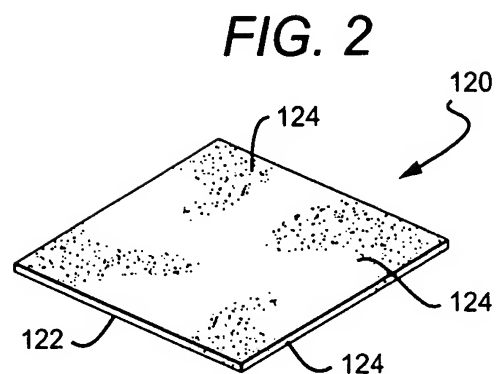
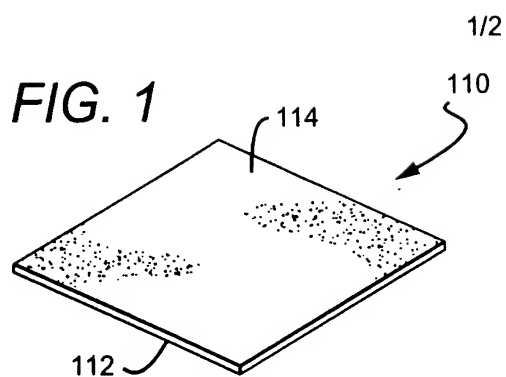


FIG. 6

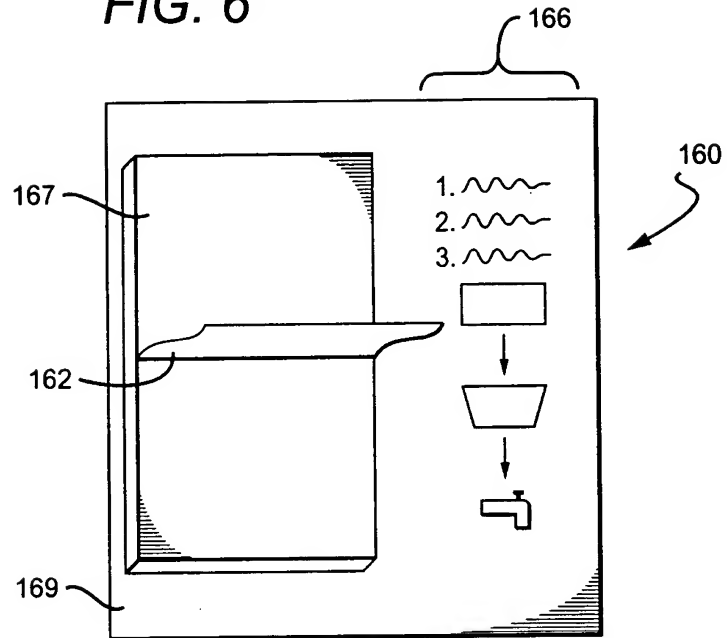


FIG. 7

